

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
75070		Acetaldehyde	25	45	C	
64197		Acetic acid	10	25	40 ppm	15
108247		Acetic Anhydride	5	20	C	37
67641		Acetone	500	1200	3000 ppm	750
75868		Acetone cyanohydrin as CN	4.7	5	C	1780
75058	S	Acetonitrile	40	70		60
98862		Acetophenone	10	49		
53963	S	2-Acetylaminofluorene; N-fluoren-2-yl acetamide; see Section 5209				
74862		Acetylene			(h)	
540590		Acetylene dichloride; see 1,2-Dichloroethylene				
79276		Acetylene tetrabromide:1,1,2,2-tetrabromoethane	1		14	
79345		Acetylene tetrachloride; see 1,1,2,2- Tetrachloroethane				
50782		Acetylsalicylic acid (Aspirin)			5	
107028	S	Acrolein	0.1	0.25	C	
79061	S	Acrylamide	--	0.03		
79107	S	Acrylic acid	2	5.9		
107131	S	Acrylonitrile; see Section 5213	2	4.5		
124049		Adipic acid	--	5		
111693	S	Adiponitrile	2	8.8		
309002	S	Aldrin; 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a- hexahydro-endo-1,2-exo-5,8- dimethanonaphthalene	--	0.25		
107186	S	Allyl alcohol	0.5	1.25		4
107051		Allyl chloride	1	3		6
106923	S	Allyl glycidyl ether; AGE	5	22		10
2179591		Allyl propyl disulfide	2	12		18
1344281		Alumina; see Particulates not otherwise regulated				
		Aluminum, alkyls (not otherwise classified)	--	2		
		Aluminum soluble salts	--	2		
		Aluminum metal and oxide	--			
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5 ⁽ⁿ⁾		
		Aluminum pyro powders	--	5		
		Aluminum welding fumes	--	5		
300925		Aluminum distearate	--	10		
7047849		Aluminum stearate	--	10		
637127		Aluminum tristearate	--	10		
1300738		Aminodimethylbenzene; see Xyldiene				
92671	S	4-Aminodiphenyl; see Section 5209				
141435		2-Aminoethanol; see Ethanolamine				
91598		2-Aminonaphthalene; see beta-Naphthylamine, Section 5209				
504290		2-Aminopyridine	0.5	2		
61825		Amitrole	--	0.2		
7664417		Ammonia	25	18		35
3825261	S	Ammonium perfluorooctanoate	--	0.01		
12125029		Ammonium chloride fume	--	10		20
1002897		Ammonium stearate	--	10		
7773060		Ammonium sulfamate	--			

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		
620111		3-Amyl acetate; See Pentyl acetate				
628637		n-Amyl acetate; See Pentyl acetate				
626380		sec-Amyl acetate (all isomers and mixtures); See Pentyl acetate				
625161		tert-Amyl acetate; See Pentyl acetate				
62533	S	Aniline	2	7.6		
29191524	S	Anisidine (ortho and para isomers)	0.1	0.5		
		Antimony and compounds, as Sb	--	0.5		
86884		ANTU; 1-(1-naphthyl)-2-thiourea; Bantu; Rattrack	--	0.3		
7440371		Argon	(h)			
7440382		Arsenic and inorganic arsenic compounds; see also Section 5214			0.01	
		Arsenic, organic compounds, as As	--	0.2		
7784421		Arsine; AsH ₃	0.05	0.2		
1332-21-4		Asbestos (including actinolite, amosite anthophyllite, chrysotile, crocidolite, and tremolite); see Section 5208				
8052424		Asphalt (petroleum) fumes	--	5		
1912249		Atrazine	--	5		
86500	S	Azinphos methyl; o,o-dimethyl S-(4-oxo-1,2,3- benzotriazin-3(4H)-ylmethyl) phosphorodithioate	--	0.2		
3333526	S	2,2'-Azobisisobutyronitrile decomposition product, see Tetramethyl succinonitrile				
7440393		Barium, soluble compounds, as Ba	--	0.5		
7727437		Barium sulfate; see Particulates not otherwise regulated				
17804352		Benomyl				
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		
71432	S	Benzene; see also Section 5218	1		5	--
92875	S	Benzidine; 4,4'-diaminobiphenyl, see Section 5209				
71432		Benzol; see Benzene				
106514		D-Benzoquinone; see Quinone				
98884		Benzoyl chloride	0.2	1.1	C	
94360		Benzoyl peroxide; dibenzoyl peroxide	--	5		
140114		Benzyl acetate	10	61		
100447		benzyl chloride; alpha-chlorotoluene	1	5		
7440417		Beryllium, and beryllium compounds as Be	--	0.0002	0.025mg/M ³	--
92524		Biphenyl; diphenyl; phenylbenzene	0.2	1.5		
542881		Bis(chloromethyl) ether, see bis-Chloromethyl ether, Section 5209				
3033623	S	Bis (Dimethylaminoethyl) ether (DMAEE)	0.05	0.328		0.15
1304821		Bismuth telluride				0.983
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		
		Bismuth telluride (selenium-doped)	--	5		
		Borates, tetra, sodium salts				
		Anhydrous	--	5		
		Decahydrate	--	5		
		Pentahydrate	--	5		
1303862		Boron oxide	--	10		

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
10294334	Boron tribromide		1	10	C	
7637072	Boron trifluoride		1	3	C	
314409	Bromacil		1	10		
7726956	Bromine		0.1	0.7	C	
7789302	Bromine pentafluoride		0.1	0.7		
74975	Bromochloromethane; see Chlorobromomethane					
74964	Bromoethane; see Ethyl bromide					
75252	S Bromoform; tribromomethane		0.5	5		
74839	Bromomethane, see Methyl bromide					
75638	Bromotrifluoromethane; see Trifluorobromomethane					
106990	1,3-Butadiene (see also section 5201)		1	2.2		5
106978	Butane		800	1,900		11
109795	1-Butanethiol; see Butyl mercaptan					
71363	1-Butanol; see n-Butyl alcohol					
78933	2-Butanone; see Methyl ethyl ketone					
111762	S 2-Butoxyethanol (EGBE)		20	97		
123864	n-Butyl acetate		150	710		200
105464	sec-Butyl acetate		200	950		
540885	tert-Butyl acetate		200	950		
141322	Butyl acrylate		2	11		
71363	S n-Butyl alcohol; 1-butanol		50	150	C	
78922	sec-Butyl alcohol		100	305		
75650	tert-Butyl alcohol		100	300		150
109739	S Butylamine		5	15	C	450
1189851	S tert-Butyl chromate; di-tert-butyl chromate, as CrO ₃ As Cr (see also Sections 1532.2, 5206 & 8359)		--	0.1	C	
				0.005		
2426086	n-Butyl glycidyl ether; BGE; 1-butoxy-2,3-epoxypropane		25	135		
138227	n-Butyl lactate		5	25		
109795	n-Butyl mercaptan		0.5	1.5		
89725	S o-sec-Butylphenol		5	30		
98511	p-tert-Butyltoluene		1	6.1		20
7440439	Cadmium metal dust, as Cd (see also Sections 1532 & 5207)		--	0.005		120
	Cadmium, soluble salts, as Cd (see also Sections 1532 & 5207)		--	0.005		
1306190	Cadmium oxide fume, as Cd (see also Sections 1532 & 5207)		--	0.005		
7778441	Calcium arsenate; see Arsenic,inorganic (see also Section 5214)					
471341	Calcium carbonate; see Particulates not otherwise regulated			--		
156627	Calcium cyanamide		--	0.5		
1305620	Calcium hydroxide		--	5		
1305788	Calcium oxide		--	2		
	Calcium silicate; see Particulates not otherwise regulated					
1344952	Calcium silicate (synthetic); see Particulates not otherwise regulated		--			
1592230	Calcium stearate		--	10		
7778189	Calcium sulfate; see Particulates not otherwise regulated					
76222	Camphor (synthetic)		--	2		

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
105602		Caprolactam dust	--	1		-- 3
105602		Caprolactam vapor	5	20		10 40
2425061	S	Captafol	--	0.1		
133062		Captan	--	5		
63252		Carbaryl; 1-naphthyl N-methylcarbamate	--	5		
1563662		Carbofuran	--	0.1		
1333864		Carbon black	--	3.5		
124389		Carbon dioxide	5,000	9,000		30,000 54,000
75150	S	Carbon disulfide	4	12	30 ppm	12 36
630080		Carbon monoxide	25	29	200 ppm	
558134		Carbon tetrabromide	0.1	1.4		0.3 4
56235	S	Carbon tetrachloride	2	12.6	200 ppm	10 63
75445		Carbonyl chloride; see Phosgene				
353504		Carbonyl fluoride	2	5		5 15
120809	S	Catechol; pyrocatechol	5	20		
9004346		Cellulose (paper fiber); see Particulates not otherwise regulated				
21351791		Cesium hydroxide			2	
57749	S	Chlordane; 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane	--	0.5		
8001352	S	Chlorinated camphene; toxaphene	--	0.5		-- 1
		Chlorinated diphenyl oxide	--	0.5		
7782505		Chlorine	0.5	1.5		1 3
10049044		Chlorine dioxide	0.1	0.3		0.3 0.9
7790912		Chlorine trifluoride	0.1	0.4	C	
107200		Chloroacetaldehyde	1	3	C	
78955	S	Chloroacetone	1	3.8	C	
532274		alpha-Chloroacetophenone; phenacyl chloride	0.05	0.3		
79049	S	Chloroacetyl chloride	0.05	0.2		0.15 0.69
108907		Chlorobenzene; monochlorobenzene	10	46		
2698411	S	o-Chlorobenzylidene malononitrile; OCBM	0.05	0.4	C	
74975		Chlorobromomethane; bromochloromethane	200	1,050		
126998	S	2-Chloro-1,3-butadiene; see Chloroprene				
75456		Chlorodifluoromethane; Fluorocarbon 22	1,000	3,500		
53469219	S	Chlorodiphenyl (42% chlorine)	--	1		
11097691	S	Chlorodiphenyl (54% chlorine)	--	0.5		
106898		1-Chloro-2,3-epoxypropane; see Epichlorohydrin				
75003		Chloroethane; see Ethyl chloride				
107073		2-Chloroethanol; see Ethylene chlorohydrin				
75014		Chloroethylene, see Vinyl chloride, Section 5210				
67663		Chloroform; trichloromethane	2	9.78		
74873		Chloromethane, see Methyl chloride				
107302		Chloromethyl methyl ether; see Methyl chloromethyl ether, Section 5209				
542881		bis-Chloromethyl ether, see also Section 5209	0.001	0.005		
100005		1-Chloro-4-nitrobenzene; see p-Nitrochlorobenzene				
600259		1-Chloro-1-nitropropane	2	10		
76153		Chloropentafluoroethane	1,000	6,320		
76062		Chloropicrin; trichloronitromethane	0.1	0.7		
126998	S	Chloroprene; 2-chloro-1,3-butadiene	10	36		
598787	S	2-Chloropropionic acid	0.1	0.44		

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>		
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)	
						mg/M ^{3(f)}	
2039874		o-Chlorostyrene	50	285		75	428
95498	S	o-Chlorotoluene	50	250			
1929824		2-Chloro-6-(trichloromethyl)pyridine; see Nitrapyrin					
2921882	S	Chlorpyrifos	--	0.2			
		Chromite ore processing (chromate), as Cr (see also Sections 1532.2, 5206 & 8359)	--	0.005			
7440473		Chromium metal	--	0.5			
		Chromium (II) compounds, as Cr	--	0.5			
		Chromium (III) compounds, as Cr	--	0.5			
		Chromium (VI) compounds, as Cr (see also Sections 1532.2, 5206 & 8359)	--	0.005	0.1mg/M ³		
14977618		Chromyl chloride	0.025	0.15			
2971906		Clopidol	--				
		Total dust	--	10			
		Respirable fraction	--	5			
		Coal (Bituminous) dust					
		<5% quartz, respirable fraction ⁽ⁿ⁾	--	2			
		>5% quartz, respirable fraction ⁽ⁿ⁾	--	0.1			
		Coal tar pitch volatiles ⁽ⁱ⁾	--	0.2			
7440484		Cobalt, metal fume and dust, as Co	--	0.020			
		Cobalt carbonyl, as Co	--	0.1			
16842038		Cobalt hydrocarbonyl, as Co	--	0.1			
		Coke oven emissions, see Section 5211		0.15			
7440508		Copper metal fume, as Cu	--	0.1			
		Copper salts, dusts and mists, as Cu	--	1			
		Corundum, see Particulates not otherwise regulated					
		Cotton dust, see also Section 5190	--	1 ^(j)			
1319773	S	Cresol (all isomers)	5	22			
123739	S	Crotonaldehyde; beta-methylacrolein			0.3		
4170303							
299865		Crufomate	--	5			
98828	S	Cumene; isopropylbenzene	50	245			
420042		Cyanamide	--	2			
	S	Cyanide, as CN	--	5			
460195		Cyanogen	10	20			
506774		Cyanogen chloride	0.3	0.6	C		
110827		Cyclohexane	300	1,050			
108930	S	Cyclohexanol	50	200			
108941	S	Cyclohexanone	25	100			
110838		Cyclohexene	300	1,015			
108918	S	Cyclohexylamine	10	40			
121824	S	Cyclonite; RDX; cyclotrimethylenetrinitramine	--	1.5			
542927		Cyclopentadiene	75	200			
287923		Cyclopentane	600	1,720			
13121705		Cyhexatin; tricyclohexyltin hydroxide		5			
94757		2,4-D; 2,4-dichlorophenoxyacetic acid	--	10			
50293	S	DDT; 1,1,1-trichloro-2,2-bis-(p-chlorophenyl)ethane	--	1			
62737		DDVP, see Dichlorvos					
17702419	S	Decaborane	0.05	0.3		0.15	0.9
8065483	S	Demeton; a mixture of o,o-diethyl					

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
		o-2(ethylthio)ethyl phosphorothioate and o,o'-diethyl S-2(ethylthio)ethyl phosphorothioate	0.01	0.1		
123422	Diacetone alcohol; 4-hydroxy-4-methyl- 2-pentanone		50	240		
107153	1,2-Diaminoethane; see Ethylenediamine					
	Diatomaceous earth; see Silica-amorphous					
333415	S Diazinon; o,o-diethyl o-(2-isopropyl-6- methyl-4-pyrimidinyl) phosphorothioate		--	0.1		
334883	Diazomethane		0.2	0.4		
94360	Dibenzoyl peroxide; see Benzoyl peroxide					
19287457	Diborane		0.1	0.1		
2528361	S Dibutyl phenyl phosphate		0.3	3.5		
96128	1,2-Dibromo-3-chloropropane; DBCP; see Section 5212		.001	.01		
75616	Dibromodifluoromethane; see Difluorodibromomethane					
106934	S 1,2-Dibromomethane; see Ethylene dibromide, Section 5219					
102818	S 2-N-Dibutylaminoethanol		2	14		
107664	Dibutyl phosphate		1	5	2	10
84742	Dibutyl phthalate		--	5		
7572294	Dichloroacetylene		0.1	0.4	C	
95501	S o-Dichlorobenzene		25	150	50 ppm	
106467	p-Dichlorobenzene; 1,4-dichlorobenzene		10	60	200 ppm	110
91941	S 3,3'-Dichlorobenzidine; 4,4'-diamino-3,3'- dichlorobiphenyl; see Section 5209					675
764410	S 1,4 -Dichloro-2-butene		0.005	0.025		
75718	Dichlorodifluoromethane		1000	4950	6200 ppm	
118525	1,3-Dichloro-5,5-dimethyl hydantoin		--	0.2	--	0.4
75343	1,1-Dichloroethane		100	400		
107062	1,2-Dichloroethane, see Ethylene dichloride					
75354	1,1-Dichloroethylene; see Vinylidene chloride					
540590	1,2-Dichloroethylene; acetylene dichloride		200	790		
111444	S Dichloroethyl ether; bis(2-chloroethyl) ether		5	30	10	60
75434	Dichlorofluoromethane; Fluorocarbon 21		10	42		
75092	Dichloromethane; see Methylene chloride					
594729	1,1-Dichloro-1-nitroethane		2	10		
78875	1,2-Dichloropropane; see Propylene dichloride					
542756	S Dichloropropene		1	5		
75990	2,2-Dichloropropionic acid		1	6		
76142	1,2-Dichlorotetrafluoroethane; Fluorocarbon 114		1,000	7,000		
62737	S Dichlorvos (DDVP); 2,2-dichlorovinyl dimethyl phosphate		0.1	1		
141662	S Dicrotophos		--	0.25		
5124301	Dicyclohexylmethane-4,4'-diisocyanate; see Methylene bis-(4-cyclohexylisocyanate)					
77736	Dicyclopentadiene		5	30		
102545	Dicyclopentadienyl iron Total dust Respirable fraction ⁽ⁿ⁾		--	10		
60571	S Dieldrin; 1,2,3,4,10,10-hexachloro-6,7-epoxy-		--	5		

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
		1,4,4a,5,6,7,8,8a-octahydro-1,4-endo-exo-5,8-dimethanonaphthalene	--	0.25		
111422	S	Diethanolamine	0.46	2		
109897	S	Diethylamine	5	15	C	
112367	S	Diethylene glycol diethyl ether, Ethyl diglyme	5	33		
111966	S	Diethylene glycol dimethyl ether, Diglyme	1	5.5		5
100378	S	2-(Diethylamino) ethanol	2	9.6		
123911		1,4-Diethylene dioxide; see p-Dioxane				
111400	S	Diethylenetriamine	1	4		
60297		Diethyl ether; see Ethyl ether				
298044		Di-(2-ethylhexyl) phthalate; see Di-sec-octyl phthalate				
96220		Diethyl ketone	200	705		300
84662		Diethyl phthalate	--	5		
75616		Difluorodibromomethane; dibromodifluoromethane	100	860		
2238075		Diglycidyl ether; DGE; bis(2,3-epoxypropyl) ether	0.1	0.5		
123319		p-Dihydroxybenzene; see Hydroquinone				
108838		Diisobutyl ketone; 2,6-dimethyl-4-heptanone	25	150		
108189	S	Diisopropylamine	5	20		
108203		Diisopropyl ether; see Isopropyl ether				
109875		Dimethoxymethane; see Methylal				
127195	S	Dimethylacetamide	10	35		
124403		Dimethylamine	5	9.2		15
60117		4-Dimethylaminoazobenzene, see Section 5209				27.6
1300738		Dimethylaminobenzene; see Xylidene				
121697	S	N,N-Dimethylaniline; dimethylphenylamine	5	25		10
1330207		Dimethylbenzene; see Xylene				50
108849		1,3-Dimethylbutyl acetate; see sec- Hexyl acetate				
300765		o,o-Dimethyl o-(1,2-dibromo-2,2-dichloroethyl) phosphate; see Naled				
14857342		Dimethylethoxysilane	0.5	2.1		1.5
68122	S	Dimethylformamide; DMF	10	30		
108838		2,6-Dimethyl-4-heptanone; see Diisobutyl ketone				
57147	S	1,1-Dimethylhydrazine	0.01	0.025		
67641		Dimethyl ketone; see Acetone				
62759		N,N-Dimethylnitrosamine; see N-Nitrosodimethylamine, Section 5209				
131113		Dimethyl phthalate	--	5		
77781	S	Dimethyl sulfate; methyl sulfate	0.1	0.5		
148016		Dinitolimide; 3,5-Dinitro-o-toluamide	--	5		
528290,	S	Dinitrobenzene (all (isomers)				
99650,		ortho, meta and				
100254		para isomers	0.15	1		
534521	S	4,6-Dinitro-o-cresol; 2-methyl- 4,6-dinitrophenol	--	0.2		
25321146	S	2,4-Dinitrotoluene	--	0.15		
123911	S	p-Dioxane, tech. grade;				

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
		1,4-dioxacyclohexane; 1,4-diethylene dioxide	25	90		
78342	S	Dioxathion	--	0.2		
92524		Diphenyl; see Biphenyl				
122394		Diphenylamine; N-phenylaniline	--	10		
101688		Diphenylmethane diisocyanate; see Methylene bis(phenylisocyanate)				
123193		Dipropyl ketone	50	235		
34590948	S	Dipropylene glycol methyl ether	100	600	150	900
85007		Diquat; 1,1'-ethylene-2,2'- dipyridinium dibromide	--			
		Total dust	--	0.5		
		Respirable fraction ⁽ⁿ⁾				
117817		Di-sec-octyl phthalate; bis(2 ethylhexyl) phthalate	--	5		--
97778		Disulfiram	--	2		
298044	S	Disulfoton; o,o-diethyl S-2-(ethylthio)ethyl phosphorodithioate	--	0.1		
128370		2,6-Di-tert-butyl-p-cresol	--	10		
330541		Diuron	--	10		
68122		DMF; see Dimethylformamide				
57147		DMH; see 1,1-Dimethylhydrazine				
1321740		Divinyl benzene	10	50		
		Dust, nuisance dust and particulates, see Particulates not otherwise regulated				
12415348		Emery; see Particulates not otherwise regulated				
115297	S	Endosulfan; 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4, 3-benzodioxathiepin-3-oxide	--	0.1		
72208	S	Endrin; 1,2,3,4,10,10-hexachloro-6,7-epoxy- 1,4,4a,5,6,7,8,8a-octahydro-1,4-endo-endo-5, 8-dimethanonaphthalene	--	0.1		
13838169		Enflurane	2	15		
106898	S	Epichlorohydrin; 1-chloro-2, 3-epoxypropane	0.05	0.19		
2104645	S	EPN; o-ethyl o-(p-nitrophenyl) phenylphosphonothioate	--	0.1		
75569		1,2-Epoxypropane; see Propylene oxide				
556525		2,3-Epoxypropanol; see Glycidol				
74840		Ethane	(h)	--		
75081		Ethanethiol; see Ethyl mercaptan				
64175		Ethanol; see Ethyl alcohol				
141435		Ethanolamine; 2-aminoethanol	3	8	6	15
563122	S	Ethion	--	0.4		
110805	S	2-Ethoxyethanol	5	18		
111159	S	2-Ethoxyethyl acetate	5	27		
141786		Ethyl acetate	400	1,400		
140885	S	Ethyl acrylate	5	20	25	100
64175		Ethyl alcohol; ethanol	1,000	1,900		
75047	S	Ethylamine	5	9.2	C	
541855		Ethyl sec-amyl ketone; 5-methyl-3-heptanone	25	130		
100414		Ethylbenzene	100	435	125	545

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
74964	S	Ethyl bromide	5	22		
106354		Ethyl butyl ketone; 3-heptanone	50	230	75	345
75003	S	Ethyl chloride; chloroethane	100	264		
7085850		Ethyl cyanoacrylate	0.2	1.02		
673923		Ethyl tert-butyl ether	5	21		
74851		Ethylene	(h)	--		
107073	S	Ethylene chlorohydrin; 2-chloroethanol	1	3	C	
107153		Ethylenediamine; 1,2-diaminoethane	10	25		
106934	S	Ethylene dibromide; 1,2-dibromoethane, see Section 5219	0.13	1	C	
107062		Ethylene dichloride; 1,2-dichloroethane	1	4	200 ppm	2
107211		Ethylene glycol (vapor)	40	100	C	
629141	S	Ethylene glycol diethyl ether, 1,2-diethoxyethane	5	24		
110714	S	Ethylene glycol dimethyl ether, 1,2-dimethoxyethane, Glyme	1	3.7	5	18
628966	S	Ethylene glycol dinitrate		(k)	--	0.1
110805	S	Ethylene glycol monoethyl ether, see 2-Ethoxyethanol				
109864	S	Ethylene glycol monomethyl ether, see 2-Methoxyethanol				
110496	S	Ethylene glycol monomethyl ether acetate; see 2-Methoxyethyl acetate				
151564	S	Ethyleneimine; see also Section 5209	0.5	1		
75218		Ethylene oxide; see Section 5220	1	2	5	
60297		Ethyl ether	400	1,200	500	1500
109944		Ethyl formate	100	300		
75343		Ethylidene chloride; see 1,1-Dichloroethane				
16219753		Ethylidene norbornene	5	25	C	
75081		Ethyl mercaptan; ethanethiol	0.5	1		
78933		Ethyl methyl ketone; see Methyl ethyl ketone				
100743	S	N-Ethylmorpholine; 4-ethyl-1, 4-tetrahydrooxazine	5	23		
78104		Ethyl silicate; tetraethyl silicate	10	85		
22224926	S	Fenamiphos		0.1		
115902		Fensulfothion	--	0.1		
55389	S	Fenthion	--	0.2		
14484641		Ferbam; ferric N,N-dimethylthiocarbamate	--	10		
12604589		Ferrovanadium dust	--	1	--	3
14808607		Fibrous glass, see Glass				
		Flour dust		0.5 ^(s)		
		Fluorides, as F	--	2.5		
7782414		Fluorine	0.1	0.2		
75694		Fluorocarbon 11; see Trichlorofluoromethane				
75718		Fluorocarbon 12; see Dichlorodifluoromethane				
75434		Fluorocarbon 21; see Dichlorofluoromethane				
75456		Fluorocarbon 22; see Chlorodifluoromethane				
76120		Fluorocarbon 112; see 1,1,2,2-Tetrachloro- 1,2-difluoroethane				
76131		Fluorocarbon 113; see 1,1,2-Trichloro-1,2,2- trifluoroethane				
		Fluorocarbon 114; see 1,2-				

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
		Dichlorotetrafluoroethane				
75694		Fluorotrichloromethane; see Trichlorofluoromethane	--	0.1		
944229	S Fonofos		0.75	--	2	--
50000		Formaldehyde, see Section 5217	10	18		
75127	S Formamide		5	9	10	19
64186		Formic acid	2	8		
98011	S Furfural		10	40	15	60
98000	S Furfuryl alcohol		300	900	500	1500
8006619		Gasoline	0.2	0.6		
7782652		Germanium tetrahydride	1.0 f/cc _(q)			
		Glass, fibrous	0.05	0.2	C ^(u)	
111308		Glutaraldehyde ^(t)				
56815		Glycerin mist; see Particulates not otherwise regulated	--	10		
123944		Glyceryl stearate	2	6.1		
556525		Glycidol; 2,3-epoxy-1-propanol	--			
111762		Glycol monobutyl ether; see 2-Butoxyethanol				
110805		Glycol monoethyl ether; see 2-Ethoxyethanol				
109864		Glycol monoethyl ether; see 2-Methoxyethanol				
		Grain dust (oat, wheat, barley)	--	10		
7782425		Graphite, natural respirable dust		2.5		
		Graphite, synthetic				
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		
13397245		Gypsum; Calcium sulfate dihydrate; see Particulates not otherwise regulated				
7440586		Hafnium	--	0.5		
151677		Halothane	2	16		
822060		HDI; see Hexamethylene diisocyanate				
7440597		Helium	(h)	--		
76448	S Heptachlor; 1,4,5,6,7,8,8-hepta-chloro- 3a,4,7,7a-tetrahydro-4,7-methanoindene		--	0.05		
142825	n-Heptane		400	1,600	500	2000
118741	S Hexachlorobenzene		--	0.002		
87683	S Hexachlorobutadiene		0.02	0.24		
77474		Hexachlorocyclopentadiene	0.01	0.11		
67721	S Hexachloroethane; perchloroethane		1	10		
1335871	S Hexachloronaphthalene		--	0.2		
684162	S Hexafluoroacetone; 1,1,1,3,3-hexafluoro- 2-propanone		0.1	0.7		
822060		Hexamethylene diisocyanate; HDI	0.005	0.034		
110543	S n-Hexane		50	180	1000	3600
		Hexane, other isomers	500	1800		
124094		1,6-Hexanediamine	0.5	2.3		
591786		2-Hexanone; see Methyl butyl ketone				
592416		1-Hexene	50	180		
108101		Hexone; see Methyl isobutyl ketone				
108849		sec-Hexyl acetate; 4-methyl-2-pentyl acetate; 1,3-dimethyl-butyl acetate	50	300		
107415		Hexylene glycol	25	125	C	
302012	S Hydrazine		0.01	0.013		

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
10035106		Hydrobromic acid; see Hydrogen bromide				
7647010		Hydrochloric acid; see Hydrogen chloride				
74908		Hydrocyanic acid; see Hydrogen cyanide				
7664393		Hydrofluoric acid; see Hydrogen fluoride				
1333740		Hydrogen	(h)	--		
61788327		Hydrogenated terphenyls	0.5	5		
10035106		Hydrogen bromide	3	10	C	
7647010		Hydrogen chloride; muriatic acid	5	7	C	
74908	S	Hydrogen cyanide	4.7	5	C	
7664393		Hydrogen fluoride, as F	3	2.5		6
7722841		Hydrogen peroxide, as H ₂ O ₂	1	1.4		
7783075		Hydrogen selenide, as Se	0.05	0.2		
7783064		Hydrogen sulfide	10	14	50 ppm	15
123319		Hydroquinone; 1,4-benzenediol	--	2		21
999611	S	2-Hydroxypropyl acrylate	0.5	3		
95136		Indene	10	48		
7440746		Indium	--	0.1		
		Indium compounds	--	0.1		
7553562		Iodine	0.1	1	C	
75478		Iodoform	0.6	10		
4098719		IPDI; see Isophorone diisocyanate				
1309371		Iron oxide fume	--	5		
13463406		Iron pentacarbonyl, as Fe	0.1	0.8		0.2
		Iron salts, soluble, as Fe	--	1		1.6
123922		Isoamyl acetate; 3-methylbutyl acetate; see Pentyl acetate				
123513		Isoamyl alcohol; 3-methylbutanol	100	360		125
110190		Isobutyl acetate; 2-methylpropyl acetate	150	700		450
78831		Isobutyl alcohol; 2-methylpropanol	50	150		
26675467		Isoflurane	2	15		
26952216	S	Iooctyl alcohol	50	270		
78591		Isophorone; 3,5,5-trimethyl-2-cyclohexene-1-one	4	23		
4098719	S	Isophorone diisocyanate; IPDI	0.005	0.045		0.02
109591		Isopropoxyethanol	25	105		
108214		Isopropyl acetate	250	950		310
67630		Isopropyl alcohol	400	980		500
75310		Isopropylamine	5	12		10
768525	S	N-isopropylaniline	2	10		24
108203		Isopropyl ether; diisopropyl ether	250	1,050		
4016142		Isopropyl glycidyl ether; IGE; 1,2-epoxy-3-isopropoxypropane	50	240		75
1332587		Kaolin; (respirable dust containing no asbestos and <1% crystalline silica)	--	2		360
463514		Ketene; ethenone	0.5	0.9		1.5
		Lead arsenate, see Sections 5214 and 5198				3
7758976		Lead chromate, as Pb as Cr (see also Sections 5198, 1532.1, 1532.2, 5206 & 8359)	--	0.020		
		Lead (metallic) and inorganic compounds, dust and fume, as Pb (see also Section 5198)	--	0.005		0.05
78002		Lead tetraethyl, see Tetraethyl lead				

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
75741		Lead tetramethyl, see Tetramethyl lead				
1317653		Limestone; calcium carbonate; see Particulates not otherwise regulated				
58899	S	Lindane; 1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer	--	0.5		
7580678		Lithium hydride	--	0.025		
		L.P.G.; liquefied petroleum gas	1,000	1,800		
4485125		Lithium stearate	--	10		
13717005		Magnesite; magnesium carbonate; see Particulates not otherwise regulated				
1309484		Magnesium oxide fume, as Mg	--	10		
557040		Magnesium stearate	--	10		
121755	S	Malathion; o,o-dimethyl S-1(1,2- dicarboethoxyethyl) phosphorodithioate	--	10		
108316		Maleic anhydride; cis-butenedioic anhydride	0.1	0.4		
		Manganese and compounds, as Mn	--	0.2		
7439965		Manganese fume, as Mn	--	0.2		-- 3
12079651	S	Manganese, cyclopentadienyl-tricarbonyl, as Mn	--	0.1		
		Manganese tetroxide	--	0.2		
		Marble; calcium carbonate; see Particulates not otherwise regulated				
101779	S	MDA; see 4,4'-Methylene dianiline				
101688		MDI; see Methylene bis(phenylisocyanate)				
7439976	S	Mercury alkyls, as Hg	--	0.01	0.04 mg/M ³	-- 0.03
7439976	S	Mercury, metallic and inorganic compounds as Hg	--	0.025	0.1 mg/M ³	
7439976	S	Mercury aryl compounds as Hg	--	0.01	C	
108678		Mesitylene; see 1,3,5-Trimethylbenzene				
141797		Mesityl oxide; 4-methyl-3-pentene-2-one	15	60		25 100
79414	S	Methacrylic acid	20	70		
74828		Methane	(h)	--		
74931		Methanethiol; see Methyl mercaptan				
67561		Methanol; see Methyl alcohol				
16752775	S	Methomyl	--	2.5		
72435		Methoxychlor; 1,1,1-trichloro-2, 2-bis(p-methoxyphenyl)ethane	--	10		
109864	S	2-Methoxyethanol	5	16		
110496		2-Methoxyethyl acetate	5	24		
76380		Methoxyflurane	2	13		
150765		4-Methoxyphenol	--	5		
79209		Methyl acetate	200	610		250 760
74997		Methyl acetylene; propyne	1,000	1,650		
		Methyl acetylene-propadiene mixture; MAPP	1,000	1,800		1250 2250
96333	S	Methyl acrylate	10	35		
126987	S	alpha-Methylacrylonitrile	1	3		
624419		2-Methylbutyl acetate; see Petyl acetate				
109875		Methylal; dimethoxymethane	1,000	3,100		
67561	S	Methyl alcohol; methanol	200	260	1000 ppm	250 325
74895		Methylamine	5	6.4		15 19
108112		Methyl amyl alcohol; see Methyl isobutyl carbinol				

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
110430		Methyl n-amyl ketone; 2-heptanone	50	235		
100618	S	N-Methylaniline; monomethylaniline	0.5	2		
95534		o-Methylaniline; see o-Toluidine				
74839	S	Methyl bromide	1	3.88	20 ppm	
591786	S	Methyl butyl ketone; 2-hexanone	5	20		
74873		Methyl chloride	5	105	300 ppm	100
71556		Methyl chloroform; 1,1,1-trichloroethane	350	1900	800 ppm	450
107302		Methyl chloromethyl ether; see Section 5209				210
75058		Methyl cyanide; see Acetonitrile				
137053		Methyl 2-cyanoacrylate	0.2	0.908		4
108872		Methylcyclohexane	400	1,600		
25639423		Methylcyclohexanol (meta- and para-isomer mixture)	50	235		
583608	S	o-Methylcyclohexanone	50	230		75
12108133	S	2-Methylcyclopentadienyl manganese tricarbonyl, as Mn	--	0.2		345
8022002	S	Methyl demeton; a mixture of o,o-dimethyl o-(2-(ethylthio)ethyl) phosphorothioate and o,o-dimethyl S-(2-(ethylthio)-ethyl) phosphorothioate	--	0.5		
101144	S	4,4'-Methylene bis(2-chloroaniline), see also Section 5215	--	0.01		
5124301		Methylene bis(4-cyclohexylisocyanate); hydrogenated MDI	0.005	0.054		
101688		Methylene bis(phenylisocyanate); MDI; diphenylmethane diisocyanate	0.005	0.051		
75092		Methylene chloride; dichloromethane (see also section 5202)	25	87		125
101779	S	4,4'-Methylene dianiline; MDA (see also Sections 1535 and 5200)	0.01	0.08		0.1
78933		Methyl ethyl ketone; MEK; 2-butanone; ethyl methyl ketone	200	590		300
1338234		Methyl ethyl ketone peroxide	0.2	1.5	C	
107313		Methyl formate	100	250		150
60344	S	Methyl hydrazine; monomethyl hydrazine	0.01	0.019		375
74884	S	Methyl iodide	2	10		
110123		Methyl isoamyl ketone	50	234		
108112	S	Methyl isobutyl carbinol; 4-methyl-2-pentanol; methyl amyl alcohol	25	100		40
108101		Methyl isobutyl ketone; Hexone	50	205		75
624839	S	Methyl isocyanate	0.02	0.05		
563804		Methyl isopropyl ketone	200	705		
74931		Methyl mercaptan	0.5	1		
80626		Methyl methacrylate; methyl 2-methyl-2-propenoate	50	205		100
298000	S	Methyl parathion; o,o-dimethyl o-(p-nitrophenyl) phosphorothioate	--	0.2		410
107879		Methyl propyl ketone; 2-pentanone	200	700		250
681845		Methyl silicate; tetramethyl silicate	1	6		875
98839		alpha-Methylstyrene; 1-methyl-1-phenylethene	50	240		100
						485

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
77781	Methyl sulfate; see Dimethyl sulfate					
1634044	Methyl tert-butyl ether; MTBE		40	144		
21087649	Metribuzin		--	5		
7786347	S Mevinphos; 2-carbomethoxyl- 1-propen-2-yl dimethyl phosphate Mica, see Silicates Mineral wool fiber; see Particulates not otherwise regulated		0.01	0.1		0.03 0.3
7439987	Molybdenum, insoluble compounds, as Mo Total dust Respirable fraction ⁽ⁿ⁾		--		10 3	
	Molybdenum, soluble compounds, as Mo		--	0.5 ⁽ⁿ⁾		
6923224	Monocrotophos		--	0.25		
100618	Monomethylaniline; see N-Methylaniline					
60344	Monomethylhydrazine; see Methyl hydrazine					
110918	S Morpholine; tetrahydro-4H-1, 4-oxazine		20	70		30 105
7647010	Muriatic acid; see Hydrogen chloride					
300765	S Naled; o,o-dimethyl o- (1,2-dibromo-2,2-dichloroethyl) phosphate		--	3		
8030317	Naphtha, coal tar		100	400		
91203	Naphthalene		10	50		15 75
134327	alpha-Naphthylamine; 1-naphthylamine, see Section 5209					
91598	beta-Naphthylamine; 2-naphthylamine, see Section 5209					
63252	1-Naphthyl N-methylcarbamate; see Carbaryl					
25551284	Naphthalene diisocyanate; NDI		0.01	0.085	C	
7440019	Neon		(h)			
13463393	Nickel carbonyl; Ni (CO) ₄		0.001	0.007		
7440020	Nickel metal, as Ni		--	1		
	Nickel, insoluble compounds, as Ni		--	1		
	Nickel, soluble compounds, as Ni		--	0.1		
54115	S Nicotine; 1-methyl-2-(3-pyridyl)-pyrrolidine		0.075	0.5		
1929824	Nitrapyrin Total dust Respirable fraction ⁽ⁿ⁾		--			
			--	10		
			--	5		
7697372	Nitric acid		2	5		4 10
10102439	Nitric oxide; NO		25	30		
100016	S p-Nitroaniline		--	3		
98953	S Nitrobenzene		1	5		
100005	S p-Nitrochlorobenzene; 1-chloro-4-nitrobenzene		0.1	0.64		
92933	4-Nitrodiphenyl, see Section 5209					
79243	Nitroethane		100	310		
7727379	Nitrogen		(h)	--		
10102440	Nitrogen dioxide Nitrogen tetroxide; N ₂ O ₄ ; see Nitrogen dioxide					1 1.8
7783542	Nitrogen trifluoride		10	29		
55630	S Nitroglycerin			(k)		-- 0.1
75525	Nitromethane		2	5		
108032	1-Nitropropane		25	90		
79469	2-Nitropropane		10	35		

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
62759		N-Nitrosodimethylamine, see Section 5209				
1321126,	S	Nitrotoluene	2		11	
99081,						
88722,						
99990						
76062		Nitrotrichloromethane; see Chloropicrin				
10024972		Nitrous oxide	50	90		
111842		Nonane	200	1,050		
		Nuisance particulates, see Particulates not otherwise regulated				
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		
2234131	S	Octachloronaphthalene	--	0.1		0.3
111659		Octane	300	1,450		375
8012951		Oil (mineral) mist, particulate	--	(5) ^(l)		1800
		Oil (vegetable) mists (except castor, cashew nut or similar irritant oils); see Nuisance particulates				
		Organic arsenic compounds; see Arsenic, organic				
20816120		Osmium tetroxide, as Os	0.0002	0.002		0.0006 0.006
144627		Oxalic acid	--	1		-- 2
7783417		Oxygen difluoride	0.05	0.1	C	
10028156		Ozone	0.1	0.2		0.3 0.6
8002742		Paraffin wax fume	--	2		
1910425,	S	Paraquat, total particulates	--	0.5		
2074502						
1910425,	S	Paraquat, respirable sizes	--	0.1 ⁽ⁿ⁾		
2074502						
56382	S	Parathion; o,o-diethyl o-(p-nitrophenyl) phosphorothioate	--	0.1		
		Particulates not otherwise regulated				
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		
		Particulate polycyclic; aromatic hydrocarbons (PPAH) see				
		Coal tar pitch volatiles				
		PCB; see Chlorodiphenyl				
87865	S	PCP; see Pentachlorophenol				
19624227		Pentaborane	0.005	0.01		0.015 0.03
1321648	S	Pentachloronaphthalene	--	0.5		
87865	S	Pentachlorophenol; PCP	--	0.5		
115775		Pentaerythritol; tetrakis- (hydroxymethyl)methane; tetra-methylolmethane; see Particulates not otherwise regulated				
109660		Pentane	600	1,800		
107879		2-Pantanone; see Methyl propyl ketone				
628637;		Pentyl acetate	50	266		100 532
626380;						
123922;						
625161;						
620111;						
624419						

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
67721		Perchloroethane; see Hexachloroethane				
127184		Perchloroethylene	25	170	300 ppm	100
594423		Perchloromethyl mercaptan; trichloromethanethiol	0.1	0.8		
7616946		Perchloryl fluoride; ClO ₃ F	3	14		6
382218		Perfluoroisobutylene	0.01	0.082	C	
		Perlite				
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		
108952	S	Phenol	5	19		
92842	S	Phenothiazine; dibenzothiazine	--	5		
106503	S	p-Phenylenediamine	--	0.1		
101848		Phenyl ether, vapor	1	7		
100425		Phenylethylene; see Styrene				
122601	S	Phenyl glycidyl ether, PGE; 1,2-epoxy- 3-phenoxypropane	0.1	0.6		
100630	S	Phenylhydrazine	5	20		10
108985		Phenyl mercaptan	0.5	2		
638211		Phenylphosphine	0.05	0.25	C	
298022	S	Phorate; o,o-diethyl S-(ethylthio)methyl phosphorodithioate	--	0.05		0.2
75445		Phosgene; carbonyl chloride; COCl ₂	0.1	0.4		
7803512		Phosphine; PH ₃	0.3	0.4		1
7664382		Phosphoric acid	--	1		--
7723140		Phosphorus, yellow	--	0.1		3
10025873		Phosphorus oxychloride	0.1	0.6		
10026138		Phosphorus pentachloride	0.1	1		
1314803		Phosphorus pentasulfide; P ₂ S ₅	--	1		--
7719122		Phosphorus trichloride	0.2	1.5		0.5
85449		Phthalic anhydride	1	6		
626175		m-Phthalodinitrile	--	5		
1918021		Picloram	--			
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		
88891	S	Picric acid; 2,4,6-trinitrophenol	--	0.1		
83261		Pindone; 2-pivalyl-1, 3-indandione		0.1		
142643		Piperazine dihydrochloride	--	5		
26499650		Plaster of Paris; calcium sulfate hemihydrate; see Particulates not otherwise regulated				
7440064		Platinum, metal	--	1		
		Platinum, soluble salts, as Pt	--	0.002		
		Polychlorobiphenyls, see Chlorodiphenyl				
		Polytetrafluoroethylene, decomposition products	--	(m)		
		Portland Cement; see Particulates not otherwise regulated				
1310583		Potassium hydroxide; caustic potash	--	2	C	
593293		Potassium stearate	--	10		
74986		Propane	1000	1800 ^(h)		
107197	S	Propargyl alcohol; 2-propyn-1-ol	1	2		
57578		beta-Propiolactone, see Section 5209	0.5	1.5		
79094		Propionic acid	10	30		
114261		Propoxur; 2-isopropoxyphenyl N-methyl				

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
		carbamate		0.5		
109604	n-Propyl acetate		200	840	250	1050
71238	S n-Propyl alcohol		200	500	250	625
115071	Propylene	(h)	--			
78875	Propylene dichloride; 1,2-dichloropropane		75	350	110	510
6423434	S Propylene glycol dinitrate; PGDN		0.05	0.3		
107982	S Propylene glycol monomethyl ether		100	360	150	540
108656	S Propylene glycol monomethyl ether acetate		100	541	150	811
75558	S Propyleneimine; 2-methylaziridine		2	5		
75569	Propylene oxide; 1,2-epoxy-propane		2	4.75		
627134	n-Propyl nitrate		25	107	40	170
74997	Propyne; see Methylacetylene					
8003347	Pyrethrum		--	5		
110861	Pyridine		5	15		
106514	Quinone		0.1	0.4		
121824	RDX; see Cyclonite					
108463	Resorcinol		10	45	20	90
7440166	Rhodium, metal		--	0.1		
	Insoluble compounds, as Rh		--	0.1		
	Soluble salts, as Rh		--	0.001		
299843	Ronnel; o,o-dimethyl o-(2,4,5-trichlorophenyl) phosphorothioite		--	10		
	Rosin core solder, pyrolysis products, as formaldehyde		--	0.1		
83794	Rotenone, commercial		--	5		
1309371	Rouge; see Particulates not otherwise regulated					
	Rubber solvent (Naphtha)		400	1,600		
	Selenium compounds, as Se		--	0.2		
7783791	Selenium hexafluoride		0.05	0.4		
136787	Sesone; sodium 2,4-dichloro-phenoxyethyl sulfate					
	Total dust		--	10		
	Respirable fraction ⁽ⁿ⁾		--	5		
61790532	Silica, amorphous					
	Diatomaceous earth					
	Total dust		--	6		
	Respirable fraction _(n)		--	3		
	Precipitated and gel		--	6		
	Silica, crystalline					
14464461	Cristobalite, respirable dust		--	0.05		
14808607	Quartz, respirable dust		--	0.1		
14808607	Quartz, total dust		--	0.3		
60676860	Silica, fused, respirable dust		--	0.1		
15468323	Tridymite, respirable dust		--	0.05		
1317959	Tripoli, respirable dust		--	0.1		
	Silicates (<1% crystalline silica)					
12001262	Mica (respirable dust)		--	3		
	Soapstone, total dust		--	6		
	Soapstone, respirable dust		--	3		
14807966	Talc (containing asbestos); see Section 5208					
	Talc (containing no asbestos fibers),					

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
		respirable dust	--	2		
		Tremolite (containing no asbestos fibers), respirable dust	--	2		
7440213		Silicon; see Particulates not otherwise regulated				
409212		Silicon carbide; SiC; see Particulates not otherwise regulated				
7803625		Silicon tetrahydride; silane	5	7		
7440224		Silver metal, as Ag	--	0.01		
		Silver, soluble compounds, as Ag	--	0.01		
		Soapstone, see Silicates				
26628228	S	Sodium azide	0.1	0.3	C	
7631905		Sodium bisulfite	--	5		
136787		Sodium 2,4-dichlorophenoxyethyl sulfate; see Sesone				
62748	S	Sodium fluoroacetate	--	0.05		0.15
1310732		Sodium hydroxide; caustic soda	--	2	C	
7681574		Sodium metabisulfite	--	5		
822162		Sodium stearate	--	10		
9005258		Starch; see Particulates not otherwise regulated				
7789062		Strontium chromate, as Cr (see also Sections 1532.2, 5206 & 8359)	--	0.0005		
		Stearates; see specific compound				
7803523		Stibine; SbH ₃	0.1	0.5		
8052413		Stoddard solvent	100	525		
57249		Strychnine	--	0.15		
100425	S	Styrene (monomer); phenylethylene	50	215	500 ppm	100
9014011		Subtilisins (as pure crystalline proteolytic enzymes)	--			0.00006 ^(t)
57501		Sucrose; see Particulates not otherwise regulated				
74222972		Sulfometuron methyl	--	3.5		
3689245	S	Sulfotep; tetraethyl dithionopyrophosphate		0.2		
7446095		Sulfur dioxide	2	5		5
2551624		Sulfur hexafluoride	1,000	6,000		10
7664939		Sulfuric acid	--	1		3
10025679		Sulfur monochloride; S ₂ Cl ₂	1	6	C	
5714227		Sulfur pentafluoride; S ₂ F ₁₀	0.01	0.1	C	
7783600		Sulfur tetrafluoride	0.1	0.4	C	
2699798		Sulfuryl fluoride; SO ₂ F ₂	5	20		10
35400432		Sulprofos		1		40
93765		2,4,5-T;2,4,5-trichlorophenoxyacetic acid	--	10		
		Talc; see Silicates				
7440257		Tantalum metal dust, as Ta	--	5		
1314610		Tantalum oxide dust, as Ta	--	5		
78308		TCP; see Triorthocresyl phosphate				
584849		TDI; see Toluene-2,4-diisocyanate				
3689245	S	TEDP; see Sulfotep				
		Tellurium and compounds, as Te	--	0.1		
7783804		Tellurium hexafluoride	0.02	0.2		
3383968		Temephos; o,o,o',o'-tetramethyl o,o'- thiodi-p-phenylene phosphorothioate				
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
107493	S	TEPP; tetraethyl pyrophosphate;	0.004	0.05		
100210		Terephthalic acid	--	10		
		Terphenyls	0.5	5	C	
79276		1,1,2,2-Tetrabromoethane; see Acetylene tetrabromide				
76119		1,1,1,2-Tetrachloro-2,2-difluoroethane	500	4170		
76120		1,1,2,2-Tetrachloro-1,2-difluoroethane; fluorocarbon 112	500	4,170		
79345	S	1,1,2,2-Tetrachloroethane; acetylene tetrachloride	1	7		
127184		Tetrachloroethylene; see Perchloroethylene				
56235		Tetrachloromethane; see Carbon tetrachloride				
1335882	S	Tetrachloronaphthalene	--	2		
3689245		Tetraethyl dithionopyrophosphate; see Sulfotep				
78002	S	Tetraethyl lead; tetraethylplumbane, as Pb	--	0.075		
107493		Tetraethyl pyrophosphate; see TEPP				
109999		Tetrahydrofuran	200	590	250	735
75741	S	Tetramethyl lead; tetramethylplumbane, as Pb	--	0.075		
115775		Tetramethylolmethane; see Pentaerythritol				
3333526	S	Tetramethyl succinonitrile (decomposition product of 2,2'-azobisisobutyronitrile)	0.5	3		
137268		Tetramethyl thiuram disulfide, see Thiram				
509148		Tetranitromethane	0.005	0.04		
7722885		Tetrasodium pyrophosphate	--	5		
479458	S	Tetryl; 2,4,6-trinitrophenylmethylnitramine	--	1.5		
	S	Thallium, soluble compounds, as Tl	--	0.1		
109999		THF; see Tetrahydrofuran				
96695		4,4'-Thiobis(6-tert-butyl-m-cresol)	--			
		Total dust	--	10		
		Respirable fraction ⁽ⁿ⁾	--	5		
68111	S	Thioglycolic acid	1	3.8		
7719097		Thionyl chloride	1	5	C	
137268		Thiram; bis(dimethylthiocarbamoyl) disulfide	--	5		
	S	Tin, organic compounds, as Sn	--	0.1		-- 0.2
21651194		Tin, tin oxide and inorganic compounds, except SnH ₄ , as Sn	--	2		
13463677		Titanium dioxide, as Ti; see Particulates not otherwise regulated				
137268		TMTD; see Thiram				
118967		TNT; see 2,4,6-Trinitrotoluene				
108883	S	Toluene; toluol	50	188	500 ppm	150
584849		Toluene-2,4-diisocyanate; TDI	0.005	0.04	0.02 ppm	0.02
108441	S	m-Toluidine	2	9		
95534	S	o-Toluidine; o-methylaniline	2	9		
106490	S	p-Toluidine	2	9		
8001352		Toxaphene; see Chlorinated camphene				
115866		TPP; see Triphenyl phosphate				
		Tremolite, nonasbestiform; see Silicates				
75252		Tribromomethane; see Bromoform				
126738		Tributyl phosphate	0.2	2.5		
76039		Trichloroacetic acid	1	5		

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
120821		1,2,4-Trichlorobenzene	5	40	C	
50293		1,1,1,-Trichloro-2,2-bis(p-chlorophenyl)ethane; see DDT				
71556		1,1,1-Trichloroethane; see Methyl chloroform				
79005	S	1,1,2-Trichloroethane	10	45		
79016		Trichloroethylene; trichloroethene	25	135	300 ppm	100
75694		Trichlorofluoromethane; Fluorocarbon 11	1,000	5,600	C	537
67663		Trichloromethane; see Chloroform				
594423		Trichloromethanethiol; see Perchloromethyl mercaptan				
1321659	S	Trichloronaphthalene	--	5		
76062		Trichloronitromethane; see Chloropicrin				
93765		2,4,5-Trichlorophenoxyacetic acid see 2,4,5-T				
96184		1,2,3-Trichloropropane	10	60		
76131		1,1,2-Trichloro-1,2,2-trifluoroethane	1000	7600	2000 ppm	1250
78308		Tricresyl phosphate; see Triorthocresyl phosphate				9500
13121705		Tricyclohexyltin hydroxide; see Cyhexatin				
102716		Triethanolamine	--	5		
121448	S	Triethylamine	1	4.1	C	
112492	S	Triethylene glycol dimethyl ether, Triglyme	5	36		
75638		Trifluorobromomethane	1,000	6,100		
2451629		1,3,5-Triglycidyl-s-triazinetrione		0.005		
552307		Trimellitic anhydride	0.005	0.04	C	
75503		Trimethylamine	5	12		15
		Trimethylbenzene, all isomers	25	125		36
121459		Trimethyl phosphite	2	10		
88891		2,4,6-Trinitrophenol; see Picric acid				
479458		2,4,6-Trinitrophenylmethyl nitramine; see Tetryl				
118967	S	2,4,6-Trinitrotoluene; TNT	--	0.5		
78308	S	Triorthocresyl phosphate	--	0.1		
603349		Triphenylamine	--	5		
115866	S	Triphenyl phosphate; TPP	--	3		
7440337		Tungsten metal, as W	--	5		
		Tungsten, insoluble compounds, as W	--	5		10
		Tungsten, soluble compounds, as W	--	1		3
8006642		Turpentine	100	560		
		Uranium (natural), insoluble compounds, as U	--	0.2		0.6
		Uranium (natural), soluble compounds, as U	--	0.05		
110623		Valeraldehyde	50	175		
1314621		Vanadium pentoxide (V ₂ O ₅), respirable dust and fume	--	0.05 ⁽ⁿ⁾		
75014	S	VC; see Vinyl chloride, Section 5210 Vegetable oil mists (except castor, cashew nut or similar irritant oils); see Particulates not otherwise regulated				
108054		Vinyl acetate	10	30		15
100425		Vinylbenzene; see Styrene				45
593602		Vinyl bromide; bromoethylene	5	20		

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

Chemical Abstracts Registry Number ^(a)	Skin ^(b)	Name ^(c)	<u>PEL ^(d)</u>		<u>STEL ^(e)</u>	
			ppm ^(e)	mg/M ^{3(f)}	Ceiling ^(g)	ppm ^(e)
						mg/M ^{3(f)}
75014	S	Vinyl chloride, see Section 5210		1		
107131	S	Vinyl cyanide, see Acrylonitrile, Section 5213				
100403	S	4-Vinyl cyclohexene	0.1	0.4		
106876	S	Vinyl cyclohexene dioxide	0.1	0.57		
75354		Vinyldene chloride; 1,1-dichloroethylene	1	4		
75387		Vinyldene fluoride	100	262		
25013154		Vinyltoluene	50	240		
8030306		VM & P (Varnish Makers and Painters) Naphtha	300	1,350		400 1800
81812		Warfarin; 3-(alpha-acetonyl-benzyl)-4-hydroxycoumarin	--	0.1		
		Welding fumes; total particulates (see also individual constituents)	--	5		
		Wood dust	--			
		All soft and hard woods, except Western red cedar	--	5		-- 10
		Wood dust, Western red cedar--	--	2.5		
1330207		Xylene; xylol; dimethylbenzene	100	435	300 ppm	150 655
1477550	S	m-Xylene-a,a'-diamine	--	0.1	C	
1300738	S	Xylylidine; aminodimethylbenzene	0.5	2.5		
		Yttrium compounds, as Y	--	1		
7646857		Zinc chloride fume	--	1		-- 2
13530659		Zinc chromate, as Cr (see also Sections 1532.2, 5206 & 8359)	--	0.005		
15930946		Zinc chromate hydroxide, as Cr (see also Sections 1532.2, 5206 & 8359)	--	0.005		
1314132		Zinc oxide fume	--	5		-- 10
		Zinc oxide dust, see Particulates not otherwise regulated				
11103869		Zinc potassium chromate, as Cr (see also Sections 1532.2, 5206 & 8359)	--	0.005		
557051		Zinc stearate	--	10		
37300235		Zinc yellow, as Cr (see also Sections 1532.2, 5206 & 8359)	--	0.005		
		Zirconium compounds, as Zr	--	5		-- 10

Footnotes to Table AC-1

(a) The Chemical Abstracts Service Registry Number is a designation used to identify a specific compound or substance regardless of the naming system; these numbers were obtained from the Desk Top Analysis Tool for the Common Data Base and from the Chemical Abstracts Indexes.

(b) Refer to section 5155(d) for the significance of the Skin notation.

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

(c) Trade Names Removed from Table AC-1.

Trade Name	Chemical/Generic Name
Abate	see Temephos
Ammate	see Ammonium Sulfamate
Aqualin	see Acrolein
Arasan	see Thiram
Azodrin	see Moncrotophos
Baygon	see Propoxur
Bidrin	see Dicrotophos
Butyl Cellosolve	see 2-Butoxyethanol
Cellosolve	see 2-Ethoxyethanol
Cellosolve Acetate	see 2-Ethoxyethyl acetate
Compound 1080	see Sodium Fluoracetate
Coyden	see Clopidol
Crag Herbicide	see Sesone
Cythion	see Malathion
Dasanit	see Fensulfothion
Delnav	see Dioxathion
Dibrom	see Naled
Difolatan	see Captafol
Disyston	see Disulfoton
Dowtherm A	see Phenylether and Biphenyl
Dursban	see Chloropyrifos
Dyfonate	see Fonofos
Fermate	see Ferbam
Freons	see Fluorocarbons
Furadan	see Carbofuran
Guthion	see Azinphos Methyl
Korlan	see Ronnel
Lannate	see Methomyl
Mariate	see Methoxychlor
MLT	see Malathion
Moxie	see Methoxychlor
Nialate	see Ethion
Nankor	see Ronnel
Phosdrin	see Mevinphos
Pival	see Pindone
Plicttran	see Cyhexatin
Santobrite	see Pentachlorophenol
Sevin	see Carbaryl
Systox	see Demeton
Teflon	see Polytetrafluoroethylene
Thimet	see Phorate
Thiodan	see Endosulfan
Tordon	see Picloram
Trolene	see Ronnel
Vapona	see Dichlorvos
Weedone 638	see 2, 4-D
Zoalene	see Dinitolmide

(d) For the definition and the application of the Permissible Exposure Limit (PEL), refer to section 5155(b) and (c)(1).

(e) Parts of gas or vapor per million parts of air by volume at 25°C and 760mm Hg pressure.

(f) Milligrams of substance per cubic meter of air at 25°C and 760mm Hg pressure.

(g) Refer to section 5155(b) and (c)(3) for the significance of the Ceiling notation. A "C" notation in this column means the values given in the PEL columns are ceiling values. A numerical entry in this column represents a ceiling value in addition to the TWA values.

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

(h) A number of gases and vapors, when present in high concentrations, act primarily as asphyxiants without other adverse effects. A concentration limit is not included for each material because the limiting factor is the available oxygen. (Several of these materials present fire or explosion hazards.)

(i) Coal tar pitch volatiles (benzene or cyclohexane-soluble fraction) include fused polycyclic hydrocarbons (some of which are known carcinogens) which volatilize from the distillation residues of coal, petroleum (excluding asphalt), wood, and other organic matter. Asphalt (CAS 8052-42-4, and CAS 64742-93-4) is not covered under the "coal tar pitch volatiles" standard.

(j) This standard applies to the cotton waste processing operations of waste recycling (sorting, blending, cleaning, and willowing) and garnetting. It does not apply to cotton gins, cottonseed oil industry, or operations covered by section 5190.

(k) A PEL of 0.05 ppm shall apply to exposures involving a mixture of ethylene glycol dinitrate and nitroglycerin.

(l) As sampled by method that does not collect vapor.

(m) Thermal decomposition of the fluorocarbon chain in air leads to the formation of oxidized products containing carbon, fluorine and oxygen. An index of exposure to these products is possible through their alkaline hydrolysis followed by a quantitative determination of fluoride content. No particular concentration limit is specified pending evaluation of the toxicity of the products but concentrations should be kept below the sensitivity of the analytical method.

(n) The concentration and percentage of the particulate used for this limit are determined from the fraction passing a size selector with the following characteristics:

<i>Aerodynamic Diameter in Micrometers (unit density sphere)</i>	<i>Percent Passing Selector</i>
≤2	90
2.5	75
3.5	50
5.0	25
10	0

Source: American Conference of Governmental Industrial Hygienists TLV Committee 1968 Proceedings.

(o) Refer to sections 5155(b) and (c)(2) for the definition and application of the Short Term Exposure Limit (STEL).

(p) (Reserved)

(q) Fibers per cubic centimeter of air at 25°C and 760mm Hg pressure. To be considered a fiber for this limit the glass particle must be longer than 5µm, have a length to diameter ratio of three or more, and have a diameter less than 3µm. The National Institute for Occupational Safety and Health (NIOSH), Method 7400, Issue 2, August 15, 1994, which is hereby incorporated by reference, shall be used for measuring airborne fiber concentrations.

TABLE AC-1
PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

- (r) Compliance with the subtilisins PEL is assessed by sampling with a high volume sampler (600-800 liters per minute) for at least 60 minutes.
- (s) The concentration and percentage of the particulate used for this limit are determined from the fraction passing a size selector with the following characteristics:

Aerodynamic Diameter in Micrometers (unit density sphere)	Percent Passing Selector
0	100
1	97
2	94
5	87
10	77
20	65
30	58
40	54.5
50	52.2
100	50

(t) Glutaraldehyde can cause occupational asthma and skin sensitization responses such as contact dermatitis. Exposure related symptoms may include one or more of the following: shortness of breath, chest tightness, wheeze, cough, skin rash, hives, and irritation of the nose, throat, skin or eye. Hazard communication training required by sections 5191 or 5194 shall address these health hazards and symptoms along with the measures taken by the employer to evaluate and control exposures that can include medical evaluations, exposure monitoring, ventilation systems, work practices, and personal protective equipment. The communication system required by section 3203 shall inform employees where to report possible health symptoms and where to ask questions, report concerns, and receive information about the employer's evaluation and control measures.

(u) The Ceiling Limit of 0.05 ppm will take effect July 6, 2008. Until that time the following exposure limits will be in effect: PEL 0.05 ppm (8-hour time-weighted average) Ceiling Limit 0.2 ppm.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Sections 142.3 and 144.6, Labor Code.